Communicable Disease Update

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To subscribe, please call or email Jacqueline Dooley at
(617) 983-6559 or jacqueline.dooley@state.ma.us

Bureau of Communicable Disease Control
Alfred DeMaria, Jr., MD, Assistant Commissioner
(617) 983-6550

HIV/AIDS Surveillance Program
James Murphy, MPH, Director
(617) 983-6560

Division of Epidemiology and Immunization
Robert S. Goldstein, MPH, Director
Susan Lett, MD, MPH, Immunization Medical Director
Bela Matyas, MD, MPH, Epidemiology Medical Director
(617) 983-6800

Division of STD Prevention
Sally Cheney, MA, Interim Director
(617) 983-6550

Refugee and Immigrant Health Program
Jennifer Cochran, MPH, Director
(617) 983-6590

Division of TB Prevention and Control
Sue Etkind, RN, MS, Director
(617) 983-6970

Managing Editor
Jacqueline Dooley
(617) 983-6559

Contributing Editors - Elizabeth Sheehy, Marilyn DelValle, Kathleen Hursen, RN, MS and Rachel Heckscher, MPH

Important Information In Regards to Communicable Disease Update

Communicable Disease Update is about to under go some major changes in distribution. Please see our summer issue for details of electronic distribution and a subscriber survey.

Epidemiology

Massachusetts Smallpox Pre-Event Vaccination Program

While the threat is small, the release of smallpox could have a devastating impact on the health of our nation. Smallpox vaccination is being debated in the news, and it is likely that you will be hearing questions from people in your community about smallpox, smallpox vaccine and what Massachusetts is doing to protect against smallpox as a potential bioterrorist threat.

In order to enhance the ability to respond to a potential smallpox event, every state has developed a pre-event smallpox vaccination program. The overall goal is to:

- vaccinate key ***volunteer*** healthcare workers who would treat and manage initial smallpox cases and their contacts; and
- vaccinate ***volunteer*** responders who would conduct investigations and outbreak control of the initial event.

In Massachusetts, the Department of Public Health (MDPH) plans to coordinate the vaccination of 10,000 volunteer health–care workers, public health workers and first responders over the next few months.

Hospital Workers: The first phase of this program is to train and administer smallpox vaccine to multidisciplinary teams in each of the Commonwealth's 76 acute care hospitals with emergency departments.

Community Responders: A statewide public health team from the Massachusetts Department of Public Health MDPH and volunteers in all seven bioterrorism perparedness and response regions; public health workers, first responders and public safety personnel, will be trained and vaccinated.

Capacity Building: To further enhance response capabilities, MDPH will also coordinate the training and vaccination of volunteer public health, home health and school nurses across the state.

In addition to the 10,000 volunteers who will be vaccinated through this program, the Department of Defense is vaccinating members of the military. Even if you are not directly involved in the smallpox vaccination program, persons in your community may be among those vaccinated or household contacts of vaccinees.

Smallpox vaccine is a live-virus, vaccinia virus, a poxvirus related to smallpox. An immune response to vaccinia provides protection against smallpox. Because live

vaccinia virus is present at the vaccination site until the scab separates from the skin (approximately 14-21 days post vaccination), the potential exists for inadvertent inoculation of vaccinia to other parts of the body, or to the vaccinee's close contacts. Vaccination site care and handwashing are essential to preventing secondary transmission. As MDPH begins to inform the public about the smallpox pre-event vaccination program in Massachusetts, it is likely that people in your communities will have questions about smallpox and the vaccine.

All vaccinees will be given a number to call if they have questions or experience vaccine reactions. However, vaccinees or their household contacts may ask you about adverse events from vaccination. Assistance with diagnosis and management of adverse events following smallpox vaccination is available at:

CDC Smallpox Vaccine Clinician Information Line
(24 hours/7 days a week): (877) 554-4625

MDPH Division of Epidemiology and Immunization
(24 hours/7 days a week): (617) 983-6800 or toll free at
(888) 658-2850

Additional Resources

We are working with professional organizations to provide information and training opportunities to all health–care providers. In the meantime, please visit the CDC website: www.cdc.gov/smallpox, where extensive materials, including articles, fact sheets, and training modules on smallpox disease and vaccination, can be found.

For general questions about smallpox or the smallpox vaccination program in Massachusetts, please call the MDPH Division of Epidemiology and Immunization at (617) 983-6800 or visit our website at www.state.ma.us/dph and click on "Emergency Preparedness and Response."

A Primer On Norovirus

Noroviruses, formerly referred to as "Norwalk-like viruses," are part of a family of viruses called caliciviruses. Infection with a norovirus can cause acute gastroenteritis characterized by diarrhea, abdominal cramps, nausea and vomiting. Norovirus illness has an incubation period of 12 to 48 hours and a duration of 12 to 60 hours. Elderly and immunocompromised patients may be sick longer. Treatment of norovirus infection is supportive consisting of maintenance of hydration and rest.

Noroviruses are spread through an infected person's stool or vomitus. Foodborne transmission is a common route of infection and direct or indirect person-to-person transmission is frequent. Indirect transmission is aided by the extreme hardiness of the virus in the environment as well as is highly infectious nature. The infectious dose is believed to be as low as 10 to 100 viral particles, while approximately one million particles are excreted per milliliter of stool. Shedding occurs in both symptomatic and asymptomatic persons. Shedding occurs while the person is ill and for up to two weeks post-recovery. There is also the possibility of pre-symptomatic shedding.

Noroviruses are very common: they account for 94% of nonbacterial gastroenteritis reported to the Centers for Disease Control and Prevention (CDC) for which a cause is identified. There are estimated to be 23 million cases each year in the United States, 9.2 million of which are believed to be foodborne.

Testing for noroviruses formally relied on electron microscopy, with the appearance of small, round structured particles as a diagnostic indicator. Serologic assays detect the presence of antibodies to the viral capsid protein and are more sensitive than electron microscopy. A new test for viral RNA purified from stool and vomitus specimens—a reverse-transcription polymerase chain reaction (RT-PCR) —is now being performed by many state public health laboratories. This assay's specificity is increased greatly by sequencing of the PCR product, which allows both for confirmation of the presence of norovirus and for molecular typing. Massachusetts Department of Public Health (MDPH) will test specimens related to an outbreak, if new cases are still occurring.

Norovirus gained notoriety in 2002 when several cruise ships were taken out of service after a large number of guests became ill from what was soon recognized as norovirus infection. In Massachusetts, foodborne transmission of norovirus caused illness in hundreds of persons attending several functions serving food prepared by a common vendor. Also, reports of clusters of person-to-person transmission of illness compatible with norovirus infection in long-term care facilities have increased in Massachusetts since November 2002.

Individuals with illness compatible with norovirus infection should be restricted from foodhandling activities for at least three days after the cessation of symptoms and should only return to work if scrupulous hand hygiene is assured. Foodhandling activities include, but are not limited to, preparing food, distributing medications, and providing oral care for patients. Cases of illness compatible with norovirus in foodhandlers should be reported to the local board of health where the foodhandler works. Outbreaks of norovirus are reportable to MDPH under the new *Reportable Diseases and Isolation and Quarantine Requirements* (105 CMR 300.000).

Q & A Regarding Antibacterial Soap

Public awareness about the importance of handwashing may be increasing, especially as outbreaks of norovirus on cruise ships make front-page news. However, more Americans are turning to "antibacterial" soaps in an attempt to ward off disease. New research suggests that such products may contribute to the emergence of antimicrobial resistance and to changes in environmental flora that could impact human health [1]. While antimicrobial soaps have a role in some health care settings, clinicians and public health practitioners should dispel the myth that antibacterial soaps are better than handwashing with regular soaps for the public.

What does "antibacterial" mean?

"Antibacterial" simply means that the product includes an ingredient that kills bacteria. Alcohol, bleach, and peroxide are antibacterials that have long been used in household cleaning products; they quickly kill bacteria and then evaporate. It is highly unlikely for bacteria to develop resistance to these ingredients.

Triclosan and triclocarban, however, are newer compounds that have been added to many household-cleaning products over the past twenty years. Triclosan and triclocarban kill bacteria over a period of time by leaving long-acting residue on surfaces. Triclosan is an additive in 76% of liquid soaps and triclocarban in 29% of bar soaps.

Can antibacterial cleaning products increase antibiotic resistance?
Evidence suggests that resistance to triclosan and triclocarban has already appeared, and widespread household use of products with these ingredients will likely increase bacterial resistance. Scientists are concerned that exposure to these products can help increase bacterial resistance to antibiotics as well.

Should you use household products with triclosan and triclocarbon?
Handwashing with ordinary soap and water and cleaning with non-residue forming products (alcohols, bleach, peroxides) are still recommended for general hygiene and household cleaning.

What about alcohol-based hand gels?
Recent research suggests that waterless, alcohol-based hand gels and rubs are more effective germ killers than soap because they kill germs very rapidly. They are also convenient and gentler to hands than repeated washings with soap and water. And they do not promote resistance since their antibacterial activity is from alcohol only. However, alcohol-based hand gels are both poisonous if eaten and flammable; containers should be kept out of reach of children. Alcohol-based gels should not replace handwashing and the teaching of good handwashing techniques to children.

The Centers for Disease Control and Prevention (CDC) recommends that alcohol-based products should be considered standard components of hand hygiene for heath care workers in hospitals.[2] But the CDC has made no recommendations for non-hospital use. Since alcohol-based hand gels do not remove surface dirt, regular, non-antibacterial soap products should remain your first choice for cleaning at home.

This article was adapted from the REACH* Mass Winter 2003 Newsletter.
*REducing Antibiotics for CHildren

[1] Levy, Stuart B. Antibacterial Household Products: Cause for Concern. Emerging Infectious Diseases. 2001. Vol. 7, No. 3, Supplement: 512-515.

[2] Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HIPAC/SHEA/APIC/ISDA Hand Hygiene Task Force. MMWR 2002; 51(No.RR-16).

Immunization

New Pediatric Combination Vaccine

A new pentavalent combination vaccine, Pediarix™ (manufactured by Glaxo SmithKline) was licensed by the Food and Drug Administration (FDA) on December 17, 2002. This pentavalent vaccine is a combination of DTaP, hepatitis B, and IPV recommended for use at 2, 4 and 6 months of age in place of the individual vaccines currently given at those ages. Pediarix™ can reduce the number of injections a child receives by at least 5 doses by replacing dose 2 and 3 of the hepatitis B series and dose 1, 2, and 3 of the DTaP and IPV series. The Advisory Committee on Immunization Practices (ACIP) just recently recommended this vaccine be an acceptable option as part of the routine childhood immunization schedule, which should continue to include the first dose of hepatitis B vaccine at birth. A federal contract for its purchase was also just recently established. However, since Pediarix™ costs 7% more than the individual vaccines given separately, the Massachusetts Immunization Program would need additional federal and state funding in order to supply this vaccine to pediatric practices eventually. At this time, the scheduling of the introduction of this new vaccine is unclear and will depend on identification of sufficient funds.

Immunization Program Presented With Awards at CDC's National Hepatitis Coordinators' Conference in January

The Immunization Program received two achievement awards for perinatal hepatitis B prevention and case management at the National Hepatitis Coordinators' Conference in San Antonio, Texas, on January 27, 2003.

The first award was presented to the Immunization Program by the CDC for Outstanding Achievement in Perinatal Hepatitis B Case Management. The Immunization Program reported a 13% increase in the administration of hepatitis B immune globulin (HBIG) and the birth dose of hepatitis B vaccine to infants born to hepatitis B surface antigen (HBsAg)-positive women from 2000 to 2001.

In addition, the Program also received an Immunization Action Coalition (IAC) SuperHero Award for its commitment, courage, and creativity in championing the hepatitis B vaccine birth dose.

Martha Badger, Nursing Supervisor, accepted the awards on behalf of the entire Immunization Program staff.

New Reportable Diseases and Isolation and Quarantine Regulations went into effect February 14, 2003. Find information regarding the changes at www.state.ma.us/dph.

HIV/AIDS Surveillance

Regional Updates On HIV/AIDS: Analysis By Health Service Regions

As of February 1, 2003, a total of 14,004 people have been reported to the HIV/AIDS Surveillance Program of Massachusetts Department of Public Health and are known to

be living with HIV/AIDS in Massachusetts. In order to understand the HIV/AIDS epidemic better, as well as to target services provided by the Department of Public Health and others, information on reported cases is analyzed for the six Health Service Regions (HSRs). The HSRs are: Boston, Metrowest, Northeast, Southeast, Central and Western. Data on incarcerated persons are considered separately, regardless of the location of the facility in which they were incarcerated at the time of their diagnosis.

The total number of people living with HIV/AIDS (PLWHA) within each HSR and the percentage of statewide cases within each HSR, as well as the rate [per 100,000 population in each HSR], are as follows: Boston — 4,535 (32.4%) [607], Metrowest – 1,685 (12.0%) [114], Northeast – 1,954 (14.0%) [156], Southeast – 1,973 (14.1%) [159], Central – 1,211 (8.6%) [150] and Western – 1,620 (11.6%) [197]. There are significant differences in the distribution of reported mode of exposure to HIV, by gender, and race/ethnicity across HSRs. Careful consideration of these differences helps target prevention programs and client services.

Some of the more prominent differences across HSRs are as follows: Among PLWHA, the proportion of cases among females is 23.6% in the Boston HSR but as high as 37.7% in the Western HSR. People of white race constitute 30.2% of PLWHA in the Western HSR but 57.4% of the cases in the Metrowest; individuals who are Hispanic constitute 10.0% of PLWHA in the Metrowest but 49% in the Western HSR; and people whose race is black constitute 16.8% of PLWHA in the Central HSR, but 30.4% in the Metrowest HSR.

Based upon reported mode of exposure, PLWHA whose mode of exposure to HIV was ‘male sex w/male’ (MSM) constitute 44.6% of cases in the Boston HSR, but only 19.1% of the HIV/AIDS cases in the Central HSR. PLWHA with ‘Injection Drug Use’ (IDU) as their risk of HIV infection constitute 20.6% of the cases in the Metrowest HSR but 42.8% of the cases in the Central HSR. PLWHA with heterosexual mode of exposure to HIV constitute 11.2% of the cases in the Metrowest HSR but 19.2% in the Central HSR.

Differences across HSRs indicate that the HIV/AIDS epidemic in Massachusetts is a diverse epidemic; presenting as ‘regional’ epidemics across different subpopulations.

Profile of People Living with HIV/AIDS (PLWHA) In Massachusetts: Analysis By HSR* (number, %)

POPULATION	STATE **	BOSTON	M WEST	N EAST	S EAST	CENTRAL	WEST	PRISON
GENDER								
MALE	10,032 (71.6)	3,467 (76.4)	1,215 (72.1)	1,332 (68.2)	1,382 (70)	761 (62.8)	1,009 (62.3)	860 (84.6)
FEMALE	3972 (28.4)	1,068 (23.6)	470 (27.9)	622 (31.8)	591 (30)	450 (37.2)	611 (37.7)	156 (15.4)
RACE/ETHNICITY								
WHITE	6,627 (47.3)	1,956 (43.1)	968 (57.4)	1,008 (51.6)	1,324 (67.1)	568 (46.9)	490 (30.2)	308 (30.3)
BLACK	3,706 (26.5)	1,709 (21.5)	512 (30.4)	331 (16.9)	370 (18.8)	203 (16.8)	319 (19.7)	260 (25.6)
HISPANIC	3,421 (24.4)	780 (17.2)	168 (10)	556 (28.5)	255 (12.9)	424 (35)	793 (49)	442 (43.5)
OTHER	250 (1.8)	90 (2.0)	37 (2.2)	59 (3)	24 (1.2)	16 (1.3)	18 (1.1)	6 (0.6)
RISK OF HIV INFECTION: (ADULTS)								
MSM	4498 (32.3)	2,007 (44.6)	655 (39.2)	568 (29.3)	668 (34.1)	230 (19.1)	320 (19.9)	46 (4.5)
IDU	4462 (32.1)	970 (21.5)	344 (20.6)	550 (28.4)	639 (32.6)	515 (42.8)	671 (41.7)	771 (75.9)
MSM/IDU	457 (3.3)	159 (3.5)	46 (2.7)	59 (3)	67 (3.4)	34 (2.8)	43 (2.7)	49 (4.8)
HETEROSEXUAL	1887 (13.6)	509 (11.3)	188 (11.2)	306 (15.8)	291 (14.9)	231 (19.2)	299 (18.6)	62 (6.1)
BLOOD/BLOOD PRODUCTS RELATED	129 (0.9)	38 (0.8)	30 (1.8)	18 (0.9)	20 (1)	14 (1.2)	8 (0.5)	1 (0.1)
NO IDENTIFIED RISK (NIR)* **	629 (4.5)	201 (4.5)	102 (6.1)	112 (5.8)	87 (4.4)	29 (2.4)	71 (4.4)	26 (2.6)
NIR (PRESUMED HETEROSEXUAL)	1851 (13.3)	620 (13.8)	308 (18.4)	327 (16.9)	186 (9.5)	150 (12.5)	197 (12.2)	61 (6)
PEDIATRIC (AIDS ONLY)** **	91 (--)	31 (--)	12(--)	14 (--)	15 (--)	8 (--)	11 (--)	NA
TOTAL	**14,004**	**4,535**	**1,685**	**1,954**	**1,973**	**1,211**	**1,620**	**1,1016**

* Residence at the time of HIV/AIDS diagnosis

**State Total includes ten persons whose city/town of residence was unknown at the time of report

***Risk of partner is unknown and primary risk categories have been denied; definition revised 7/1/99

****Information on pediatric HIV-infection is collected through a separate system and hence the data is not presented here

You Be The Epi

Hematuria in an African Immigrant

A 20 year old male Congolese immigrant who arrived in the U.S. to attend college had his first medical examination since coming to the U.S.

His medical history is unremarkable. As is typical in immigrants from Central Africa, he has a history of malaria, does not present with allergies and does not use medications of any sort. His physical exam, including vital signs is normal.

A complete blood count (CBC) and an urinalysis are both done in your CLIA-certified lab. A PPD skin test is planted. Risk factors that would indicate concern for HIV infection, hepatitis, and sexually transmitted diseases are discussed.

The CBC has an abnormal number of eosinophils (13% of 9,300 white blood cells). The urine is positive for blood, with 30-50 red blood cells per high powered field under the microscope.

Thirteen percent of 9,300 equates to an absolute eosinophil level of 1,209 per microliter. That is well over the commonly accepted upper limits of normal at 450 – 650 per microliter, so it represents eosinophilia. Thinking that the hematuria (blood in the urine) and eosinophilia are most likely related, you consult your infectious disease reference. Quickly, you arrive at the possible diagnosis of schistosomiasis. While eosinophilia can be caused by a number parasitic infections and other diseases, this diagnosis seems reasonable as your patient has recently arrived from the Congo (formerly Zaire) in central Africa, an area with endemic schistosomiasis.

World-wide, schistosomiasis is one of the most common causes of hematuria. *Schistosoma* species trematodes are endemic in fresh and salt water throughout much of the world. The parasites have a complex life cycle involving snails and free-living forms. Non-human pathogenic species can cause “swimmer’s itch” when the larvae, called cercariae, penetrate the skin. Human pathogenic species depend on fresh water snails as their vector and have various geographic distributions. *S. haematobium* is found mainly in Africa but also in the Eastern Mediterranean region. After skin penetration, *S. haematobium* penetrates the skin and migrates through the bloodstream to the lungs before ultimately lodging in blood vessels around the bladder. (Other species lodge near the bowel.) After 4-6 weeks, an acute illness termed “Katayama Fever” ensues and is characterized by fever, malaise, lymphadenopathy, and eosinophilia. With species causing gastrointestinal involvement, a patient may have bloody diarrhea and a tender enlarged liver. Chronic disease reflects the relative worm burden and degree of scarring and inflammation at sites of deposited eggs. Bladder symptoms may include pain or burning on urination, hematuria, secondary infections, and pelvic pain.

Schistosomiasis is diagnosed by microscopic examination of the stool or filtered urine for the parasites eggs. Egg excretion peaks in the early afternoon. Blood tests may be helpful, but sometimes biopsies may be needed. Serologic testing should be conducted by a reliable laboratory. Clinicians can consult the Centers for Disease Control and Prevention for serologic testing. Treatment is relatively simple with a single day’s course of praziquantel. Some patients may require consultation with a urologist or gastroenterologist for treatment of the complications from scarring and inflammation. In any case, follow-up should include repeat urinalysis and CBC to document improvement after treatment.

Refugee and Immigrant Health

Hepatitis B in Refugees

Hepatitis B virus infection continues to be a serious health problem among refugee communities. Most refugees come from regions of the world with either high or intermediate endemicity of hepatitis B. These include most of Asia, the Pacific islands, Sub-Saharan Africa, Eastern Europe, and the Middle East.

High prevalence areas, which are defined as areas where 8% or more of the population has chronic hepatitis B, encompass 45% of the world's population. The lifetime risk of infection is over 60%, and early childhood infections are common. In intermediate prevalence areas, from 2 to 7% of the populations are hepatitis B carriers, the lifetime risk of infection is 20%-60%, and infections occur in all age groups. Approximately 43% of the global population is in these intermediate prevalence areas.

Worldwide, 2 billion people have hepatitis B serologic markers indicating past or current infection. Among these, 350 million have chronic infection and are at risk of liver failure and liver cancer caused by hepatitis B infection. In the U.S., national data indicate that among newly arrived Southeast Asian refugees, up to 50% are immune from naturally acquired infection, 14% are carriers, and about 36% are susceptible). See Table 1 for the prevalences of hepatitis B infection among refugees in Massachusetts.

Table 1: Hepatitis B infection among newly arrived refugees in Massachusetts, FY 01

World Region	HBV Prevalence in Region	# Refugees Screened	% Hepatitis B Active Infection	
			Adults ≥18 y.o.	Children <18 y.o.
Sub-Saharan Africa	High	726	10.0%	7.4%
Americas and Caribbean	Low	133	2.1%	0%
East and Southeast Asia	High	170	7.8%	1.5%
Near East and South Asia	Intermediate	182	1.0%	0%
Eastern Europe and Formerly Socialist Economies	Intermediate	1,288	2.2%	1.2%

When acquired at birth, hepatitis B causes death from liver disease, including hepatocellular carcinoma (liver cancer), in up to 25% of those infected. Yet hepatitis B is a preventable disease. Safe, effective, and affordable vaccination is available. In fact, liver cancer, which is especially prevalent in areas of world where hepatitis B is common, preventable by vaccination.

The U.S. Centers for Disease Control and Prevention has prioritized the elimination of hepatitis B virus transmission in the U.S. Objectives are to prevent chronic infection, chronic liver disease, primary liver cancer, and acute symptomatic infection. The strategies for elimination of transmission include interruption of perinatal transmission by screening pregnant women and treating their newborns with immunoglobulin against Hepatitis B as well as immediate vaccination and follow-up. Other strategies focus on vaccination and include routine vaccination of all infants, children in high-risk groups, adolescents, unvaccinated children at 11-12 years of age, "high-risk" adolescents at all ages, and adults in high-risk groups. Hepatitis B "catch-up" – vaccinating all children 0-18 years – is particularly recommended for children of parents from moderate/high risk endemic areas.

In Massachusetts, all refugees are screened for hepatitis B infection or immunity shortly after arrival as part of the Refugee Health Assessment Program. When a refugee is infected, the need for vaccination of family members is assessed. Referral to the appropriate outreach educator of the Refugee and Immigrant Health Program is made. The outreach educator staff are active in ensuring follow-up of refugee patients and their household contacts. For the carrier, education includes the need for routine primary care, reducing the risk of transmission, and good liver health. The latter includes good nutrition and, if the individual drinks alcohol, reducing the number and frequency of drinks. For family contacts, information on risk reduction is also provided. The importance and value of vaccination is emphasized. Because most refugees complete the first two doses of hepatitis B immunization during the health assessment, it is the third dose at six months that is tracked. In addition, outreach educators assist in tracking families when refugee women give birth in the U.S. Thus, infants receive timely vaccination following their initial newborn treatment as well as prompt screening for infection.

TB Prevention and Control

New Guidelines for the Treatment of Tuberculosis

On February 15, 2003, the federal Centers for Disease Control and Prevention (CDC), in a joint effort with the American Thoracic Society (ATS) and the Infectious Diseases Society of America (IDSA), published new *Guidelines for the Treatment of Tuberculosis*. This statement represents the first major revision of the CDC treatment guidelines since 1994, and reflects contributions from new information that has accumulated since that time.

Briefly, the major changes in the document since 1994 include the following:

- Responsibility for successful completion of treatment is assigned to the public health program or to the private provider – not to the patient. It is our responsibility to see to it that our patients complete an adequate course of therapy.

- Patient-centered case management is reconsidered, long the standard in Massachusetts, with an adherence plan that emphasizes directly observed treatment (DOT) for all patients.

- Recommended treatment regimens are detailed and they are rated according to the strength of the evidence supporting their use.

- Sputum cultures should be obtained at the completion of the initial phase of therapy, especially in patients with cavitary disease, to identify patients with pulmonary tuberculosis who are at-risk of relapse.

- Extended treatment (by at least 3 months) is recommended for patients with drug-susceptible pulmonary TB with cavitation on their initial chest radiograph *and* positive sputum cultures at the completion of 2 months' therapy.

- The roles of rifabutin, rifapentine, and fluoroquinolones are discussed; a regimen utilizing rifapentine in a once-a-week continuation phase is discussed.

- Some practical aspects of treatment, such as actual drug administration, use of fixed-dose drug combinations, monitoring and management of adverse events, and drug interactions, are discussed.

- Treatment completion is defined explicitly by the number of doses ingested, as well as the actual duration of the treatment.

- Special treatment situations, such as HIV infection, TB in children, extrapulmonary TB, culture negative TB, TB in pregnancy and in women who are breast feeding, hepatic disease, and renal disease are discussed.

- The management of TB caused by drug-resistant organisms is discussed.

- These recommendations are compared with those of the WHO and the IUATLD, and the DOTS (DOT short course) strategy is described.

- The status of current research to improve treatment is reviewed.

In Massachusetts, particular emphasis must be placed on **monthly monitoring of sputum cultures** of patients with pulmonary tuberculosis, especially those with cavitation on their initial chest radiographs, until time of conversion. In a CDC study cited in the new *Guidelines*, patients with positive sputum cultures at 2 months into treatment had higher rates of relapse. Also, consideration should be given to extending therapy and perhaps looking for a reason why sputum conversion has not occurred in all patients who do not convert their sputum at 2 months, regardless of whether cavitation is present.

In addition, renewed emphasis must be placed on identifying **close contacts** of cases and suspects. These individuals, especially children and immunocompromised persons, are at extraordinary risk for developing disease; they should be evaluated by a clinician

skilled in tuberculosis prevention and treatment, and they should be treated, where appropriate. In this regard, the role of the physician in getting contacts identified, evaluated, and treated cannot be underestimated. Patients tend to take advice from their physicians seriously, and every effort should be made to ensure appropriate management of all susceptible contacts of all our cases.

We encourage you to read the document in detail; it is published in the American Journal of Respiratory and Critical Care Medicine Vol 167, pp. 603-662, 2003, and it can be accessed at the ATS web site: www.thoracic.org/adobe/statements/treattb.pdf , or the CDC web site: www.cdc.gov/nchstp/tb/new/new.htm. Please feel free to call Dr. John Bernardo at 617-983-6970, if you have any questions.

Mary Corron, R.N., Public Health Nurse in Worcester

Public health nursing is a specialized field requiring knowledge of the art and science of nursing and public health. In this issue we highlight Public Health Nurse Mary Corron, R.N for her work and dedication at the Worcester Health Department. The city of Worcester has the highest number of TB cases in the central/western region. Mary has worked for the health department for ten years: seven years as a school nurse and three years as tuberculosis (TB) case manager. Prior to her employment with the health department, she worked as an emergency room nurse at a Worcester hospital.

As the TB case manager, Mary works closely with the Getchell/Ward TB Clinic team and six other public health nurses. She brings experience and vitality to the health department. Mary meets the many challenges of TB nursing with her upbeat personality. She has never been heard to say, “No, we can’t do that,” rather, she states, “O.K. we’ll try our best.”

Because Worcester is the second largest city in MA, the team approach works best. Thirteen cases of TB were reported in Worcester in 2002. Mary, with the help of the other public health nurses, was able to organize and perform discharge planning, directly observed therapy (DOT), home visits, contact investigations, education, prevention, clinic visits, and counseling. When challenging problems with a case arise, Mary and the nurses are able to confer and exchange ideas among themselves and the state tuberculosis surveillance area (TSA) nurse to develop the best possible care plan for the patient. These are all elements of an excellent TB program.